Advanced Information Systems Technology (AIST) Status Briefing:

Fall 1999 TST

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Briefing Agenda

- **AIST RFI Status**
- **AIST Related Activities**
- **AIST Planning & NRA Focus**
- **AIST NRA**
  - **Overview**
  - **Scope**
  - **Schedule**

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AIST RFI Status

- **AIST Request For Information (RFI) released on March 18, 1999 and closed Tuesday, May 18, 1999**
  - RFI reference documents included latest "OES thinking", e.g., Easton Report, ES Vision Initiative, etc.
  - Six, end-to-end IT categories provided
  - Received 149 white paper responses from Academia (23), Industry (45), NASA Centers (77), Other US Govt. (1), and Non-affiliated (3)
    - All requested categories were well represented by the submissions

- **Held AIST RFI Workshop June 29 - July 1, 1999**
  - Representatives from across NASA, Academia, and Industry took part in the workshop to "mine" the Information Technologies and concepts contained in the white papers
  - AIST RFI Workshop Report posted on the ESTO home page (http://esto-doc.gsfc.nasa.gov/sections/aist/)
  - Data obtained to be entered into the ESE Capability and Needs Matrix (CNM)

AIST Related Activities

- **Earth Science Vision Initiative (ESVI)**
  - **Has held two workshops to define technologies**
    - **Technology roadmaps still being worked**

- **New Data and Information Systems and Services (NewDISS)**
  - **Draft Version 0.1 released for review**
  - **ESTO/AIST tasked Aerospace to extrapolate candidate architectures and associated common technologies/roadmaps for potential investment**
    - **Results can also be utilized by NewDISS Transition Team**

- **Baseline Mission Profile Study (BMPS)**
  - **Aerospace supported Centers' activities and provided Cost Analysis Tool for mission and budget analysis**
  - **Modified task to extract technology requirements for the first 7 missions, including NPP**
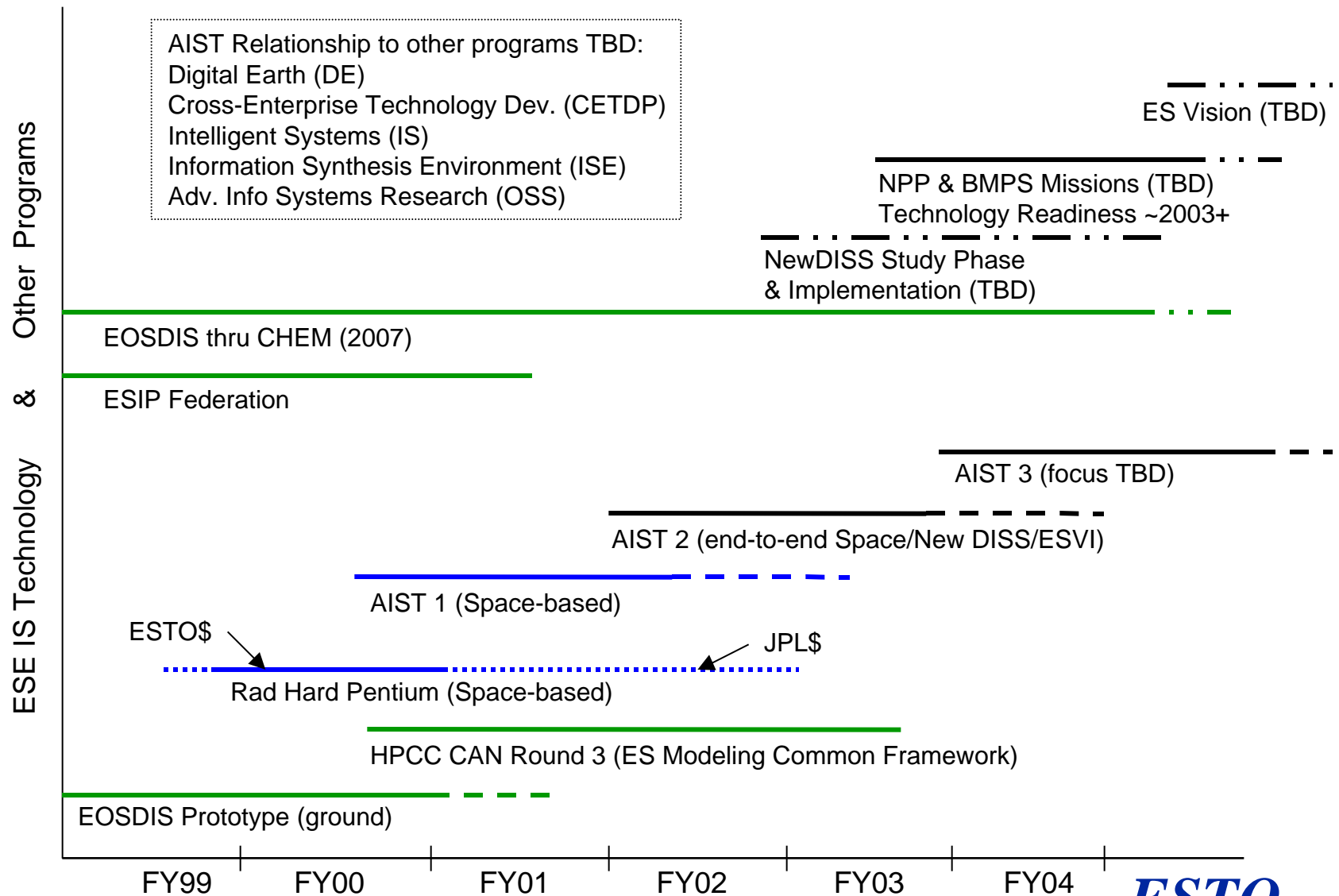   - **Coordinating directly with NPP, too, for technology requirements**

AIST Planning & NRA Focus

- **ESTO/AIST is performing the integration of AIST RFI, ESVI, NewDISS, and BMPS resultant technologies to ensure completeness and avoid gaps**
  - **Provides the "complete" ES IT planning picture**

- **AIST NRA directed to be on-board, space based and communications focused (circa February & March 1999)**

- **Comparison of existing programs and missions with planned programs and missions support this direction**

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Other Programs

AIST Relationship to other programs TBD:
Digital Earth (DE)
Cross-Enterprise Technology Dev. (CETDP)
Intelligent Systems (IS)
Information Synthesis Environment (ISE)
Adv. Info Systems Research (OSS)

ES Vision (TBD)

NPP & BMPS Missions (TBD)
Technology Readiness ~2003+

NewDISS Study Phase
& Implementation (TBD)

EOSDIS thru CHEM (2007)

&

ESIP Federation

ESE IS Technology

AIST 3 (focus TBD)

AIST 2 (end-to-end Space/New DISS/ESVI)

AIST 1 (Space-based)

ESTO$

JPL$

Rad Hard Pentium (Space-based)

HPCC CAN Round 3 (ES Modeling Common Framework)

EOSDIS Prototype (ground)

FY99   FY00   FY01   FY02   FY03   FY04

AIST NRA Overview

- **Goals**
  - **NRA solicits both hardware and software technology proposals. Emphasis is given for on-board, space-based applications. Future NRAs will include ground-based technologies.**

- **Proposal Research Topics**
  - **Onboard Data Processing and Intelligent Sensor Control**
  - **Onboard Satellite Data Organization, Analysis and Storage**
  - **Transmission and Network Configuration**
  - **Intelligent Platform Control**
  - **Architectures and Standards**

- **NRA Reference Material**
  - **Easton Report**
  - **ESVI**
  - **AIST RFI Results**
    - **CNM Inputs**

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AIST NRA Scope

- **Development of component, subsystem or system technologies in the development range of ~ TRL1 to TRL6**

- **Resultant technologies may be used in IIP, NMP, other flight validation program, or infusion into future or existing OES systems**

- **Three year NRA: 2 year base with 3rd year as an option**
  - **New NRA every 2 years**

- **Contingent upon the availability of appropriated funds**
  - **~ $6M per year**
  - **15 to 20 proposals expected to be awarded in $150,000 to $500,000 range per year**

- **Dr. G. Asrar, or designee, is Selecting Official**

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AIST NRA Schedule

- **CBD Announcement**   **September 22, 1999**
- **NRA Release (60d)**   **October 8, 1999**
- **Letter of Intent to Propose due**   **November 4, 1999**
- **Proposals Received**   **December 7, 1999**
- **Reviewer Evaluations**   **December 12, 1999 - January 17, 2000**

- **Review Panel Workshop**   **January 18 - 20, 2000**
- **Presentation to Selection Official**   **January 27, 2000**
- **Selection**   **February 3, 2000**
- **Contract Awards**   **April - July 2000**

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AIST NRA Schedule